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10/595,853

05/16/2006

Rudiger Nowak

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EXAMINER

LACLAIR, DARCY D

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

11/04/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/595,853

Applicant(s)

NOWAK ET AL.

Examiner

Darcy D. LaClair

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

1. All outstanding rejections, except for those maintained below are withdrawn in light of the amendment filed on 8/25/08.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The new grounds of rejection set forth below are necessitated by applicant's amendment filed on 8/25/08. In particular, **Claim 1** has been amended to remove "epoxy resins" from the Markush group, as well as specify "the silica has been compacted by a roller compactor or a pressing filter belt." Thus, the following action is properly made **FINAL**.

Terminal Disclaimer

2. The terminal disclaimer filed on 8/25/08 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of May 15, 2003 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claim 3** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specifically, the claim now requires "A method for reducing the time needed to incorporate compacted hydrophobic silicas into thixotropic adhesives and sealants." In the specification, applicant indicates "the viscosities of the adhesive and sealant systems which are rendered thixotropic with the compacted hydrophobic, pyrogenic silicas...." (see par [0172]) This suggests that the adhesives and sealants are not, in fact, thixotropic prior to the addition of the compacted silicas, and therefore a thixotropic adhesive or sealant to which the compacted silicas are added is not supported by the specification as filed.

Claim Rejections - 35 USC § 102

4. **Claims 1-3 and 5** are rejected under 35 U.S.C. 102(b) as being anticipated by **Nowak et al. (US 2001/0047047)**

Claims 1 and 3 recite **product-by-process** format for the silica, and as such the process limitations are not given a patentable weight absent a showing of criticality.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

Claim 1 currently requires adhesive and sealant systems based on polymers including polyurethane characterized in that they contain 1 wt% to 15 wt% of a compacted hydrophobic, pyrogenic silica. Nowak teaches the addition of pyrogenically produced oxides such as silicon dioxide, including Aerosil R202 (see par [0013]) to polyurethane gels (see par [0002]) These gels have an adjustable adhesion capability, specifically useful in application to human or animal body parts. (see par [0098]) The content of fillers may be up to 70 wt%, and contents of 3% (Example 1), 10% (Example 2), and 5% (Example 3) of Aerosil silica are exemplified. Nowak presents hydrophilic Aerosil including the compacted product. (see par [0018]) This product is similar to the compacted Aerosils presented by applicant (see applicant's Table 1) and all are obtained from the same supplier.

Claim 2 requires the silica to display a compacted bulk density of 60 g/L to 200 g/L. The hydrophobic silicas R972 and R974 have compacted density 90 g/L.

Claim 3 requires a method for reducing the time needed to incorporate compacted hydrophobic silicas into thixotropic adhesives and sealants. The compacted silicas are provided by Degussa AG, (see par [0013]) and the compacted silicas would be made using similar processes. They would therefore behave in similar manners in the polymer; therefore, these silicas would reduce the time needed to incorporate the compacted silicas into the adhesives.

Claim 5 requires that the time needed to prepare the thixotropic adhesives and sealants is shorter than would be with compacted hydrophobic silica having a compacted density of 50 g/L. The time to prepare the compositions appears to be

inversely related to the compacted density of the silica, based on the thixotropic behavior of these silicas. The silicas with a higher compacted density of 90 g/L (See Table 1) would inherently have a reduced mixing time to incorporation.

5. **Claims 1-2** are rejected under 35 U.S.C. 102(b) as being anticipated by **Hartmann et al. (US 5,959,005)**

The rejection is adequately set forth in **paragraphs 11-12** of the office action mailed **May 29, 2008**, and is incorporated here by reference.

6. **Claims 1-3 and 5** are rejected under 35 U.S.C. 102(b) as being anticipated by **Meyer et al. (US 2002/0077388)**

The rejection is adequately set forth in **paragraphs 13-14** of the office action mailed **May 29, 2008**, and is incorporated here by reference.

7. **Claims 1-3 and 5** are rejected under 35 U.S.C. 102(b) as being anticipated by **Adams et al. (US 6,156,285)**

The rejection is adequately set forth in **paragraphs 15-16** of the office action mailed **May 29, 2008**, and is incorporated here by reference.

Claim Rejections - 35 USC § 103

8. **Claims 3 and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hartmann et al. (US 5,959,005)**

The rejection is adequately set forth in **paragraphs 18-19** of the office action mailed **May 29, 2008**, and is incorporated here by reference.

Response to Arguments

9. Applicant's arguments filed 8/25/08 have been fully considered. Specifically, (A) a **terminal disclaimer** has been filed with respect to **US 7,095,929**, (B) The rejection of **Claim 5** under **35 USC 112** is traversed on the grounds that **Claim 3** has been amended to specify the compacted bulk density of the silica, and applicant traverses the following rejections on the stated grounds: (C) The rejection of **Claims 1-3 and 5** over **Michael et al. (US 2002/0037936)** is traversed based on the amendment to the claims removing "epoxy" from the Markush group of resins presented, (D) The rejection of **Claims 1-2** over **Hartmann et al. (US 5,959,005)** is traversed on the grounds that the patent describes a silica which has been compacted by a ball mill, and has no thickening effect and does not suggest that the time for incorporation of the silica into the adhesive is reduced, (E) The rejection of **Claims 1-3 and 5** over **Meyer et al. (US 2002/0077388)** does not have any thickening effect as shown by Table 2, and does not describe any compacted silica as defined in the present claims, (F) The rejection of **Claims 1-3 and 5** over **Adams et al. (US 5,156,285)** does not describe any hydrophobic silica (G) The rejection of **Claims 3 and 5** over **Hartmann et al. (US 5,959,005)** on the grounds that no thickening effect is observed, and the silica is produced by a ball mill.

With respect to (A), the terminal disclaimer has been recorded, and the rejection is therefore withdrawn.

With respect to (B) and (C), the rejection is withdrawn in light of applicant's amendments.

With respect to (D), applicant's arguments have been considered, but are **not persuasive**. Applicant has argued that the silica which has been compacted by a ball mill has no thickening effect and the time for incorporation is not reduced. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., thickening effect and time for incorporation) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, **Claim 1** recites a **product-by-process** format for the silica, and as such the process limitations are not given a patentable weight absent a showing of criticality. (See above, **paragraph 4**) While applicant has exemplified a thixotropic effect during mixing, applicant has primarily demonstrated a reduction of viscosity (or thickness) after the addition of the hardener. (see Applicant's Table 2, 3) This is consistent with Hartmann's teaching that the method produces low-viscosity polymer systems. (see col 1 line 47-61)

With respect to (E), applicant's arguments have been considered, but are **not persuasive**. Applicant has argued that the silica which has been compacted by a ball mill has no thickening effect and the time for incorporation is not reduced. In response

to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., thickening effect) are not recited in the rejected claim(s). With regard to the time needed to incorporate the compacted (60 g/L to 200 g/L) hydrophobic silicas into the adhesive and sealant with respect to 50 g/L silicas, the uncompacted aerosol has a density of 50 g/L and the compacted silica has a density of 242 g/L. The viscosity of the binder + uncompacted silica has a significantly higher viscosity than the binder + compacted silica at 6 rpm or 60 rpm. (See Table 2) This decrease in viscosity would allow easier mixing and more ready incorporation of the silica.

With respect to (F), applicant's arguments have been considered, but are *not persuasive*. Adams indicates that when used in a curable silicon composition the densified silica may be treated to make hydrophobic, by treating agents and methods well known in the art, such as organosilicon compounds such as organochlorosilanes, organodisilazanes, cyclic polydiorganosiloxanes, and linear polydiorganosiloxanes. (See col 4 line 50-51) In example 1, a mixture of methyltriacetoxysilane and ethyltriacetoxysilane is used. (See Table 1)

With respect to (G), applicant's arguments have been considered, but are *not persuasive*. See the discussion **with respect to (D)**, above. Furthermore, Hartmann indicates that due to the low thickening, expensive compounding processes can be largely eliminated. (See col 2, line 7-8) This indicates that the mixing requirements would be reduced with respect to known silicas, or those which have not been subjected to a silanized (hydrophobic), compressed silica.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darcy D. LaClair whose telephone number is (571)270-5462. The examiner can normally be reached on Monday-Thursday 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Darcy D. LaClair
Examiner
Art Unit 1796

/DDL/

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